



Equine Piroplasmosis

The Disease

Equine Piroplasmosis (EP) is a blood-borne disease that can affect all equids (horses, donkeys, mules, and zebras) and is caused by one of two protozoan parasites, *Theileria equi* or *Babesia caballi*. Humans are rarely infected by the causative organisms of equine piroplasmosis.

As The United States (U.S.) is considered “free” of the organisms that cause EP, EP is considered a foreign animal disease (FAD). Positive cases must be reported to state or federal animal health officials within two days of discovery.

Transmission

EP is spread either via ticks or via humans. Natural transmission occurs when a tick consumes a blood meal from an infected horse and transfers the parasite to a naïve horse or to subsequent generations of ticks. Species of ticks capable of transmitting the causative organisms are naturally found in the U.S. Additionally, an infected pregnant mare may pass the organism to her foals in utero.

People can introduce virus to a naïve horse through the use of infected blood or blood products, or through the use of blood contaminated equipment such as needles, syringes, surgical instruments, dental equipment, tattooing equipment, or any other equipment that may have come in contact with infected blood.

Never reuse needles, syringes, or surgical equipment without proper sterilization, which requires use of an autoclave and specialized disinfectants. Consult a veterinarian about proper sterilization techniques.

Prevalence of EP

Since June 2014, fourteen horses have been found to be positive for EP. Eight of the 14 were dually infected with EIA virus. Eleven of the 14 were racing quarter horses and three were Spanish Purebred Horses. All eight dually infected animals and two EP positive horses were euthanized.

Clinical Signs

After an incubation period (time before onset of clinical signs) of 5-28 days, clinical signs may include fever, anemia, yellowing of the mucous membranes (jaundice), dark brown or red-tinged urine, collapse and death in severe cases.

A horse that survives the clinical phase of disease continues to carry the parasite in their red blood cells. These persistently infected horses pose a risk for infection to other horses. Stress, such as racing, heavy exercise, or transport, may increase the levels of the parasite present in the blood of the infected horse; thereby, increasing the risk of disease spread.

Diagnosis

The disease is diagnosed by serologic (blood) test. In the U.S., testing for EP is performed by complement fixation (CF) and enzyme-linked immunoabsorbant assay (ELISA) test. Both tests are used to confirm infection as one detects early infection, and the other detects chronic infection.

Positive tests are reported by the testing laboratory to the local state or federal animal health official within two days. In California, a California Department of Food and Agriculture (CDFA) Animal Health Branch (AHB) veterinarian will locate the positive animal, quarantine the horse, and obtain a blood sample for confirmatory testing.

A regulatory veterinarian will perform an investigation to identify exposed horses which includes:

Any horse that resides with or near a positive horse,
Any horse that may have shared equipment such as needles, syringes, dental, tattooing, or surgical equipment with a positive horse, or
Nursing offspring of a positive horse and of exposed horses.

All horses classified as exposed are placed under quarantine and tested for EP. To identify recently infected horses incubating the disease,



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all exposed horses are retested 45-60 days after the removal of the EP positive horse. Exposed horses are placed under quarantine until the retest confirms negative EP status of the horse.

Treatment

There is no approved vaccine for EP in the U.S., however a treatment has been recently developed to treat *Theileria equi* infections. Positive horses can be enrolled in a state-federal approved treatment program. Treatment with an antiprozoal drug, imidocarb, is performed at the owner's expense, and must be performed by a United States Department of Agriculture (USDA) accredited veterinarian under the observation of a state or federal animal health official. The horse is quarantined for the entire length of treatment.

The management options for a positive horse are enrollment into the USDA Animal Plant Health Inspection Services (APHIS) EP treatment under quarantine, lifetime quarantine, or euthanasia. Quarantine requires horses to be placed in a tick free vegetative free environment. All positive horses must be permanently identified by microchip at the owner's expense.

Prevention

This is a blood-borne disease. In order to protect horses from getting this disease, follow these guidelines:

- Always use a sterile needle and syringe for all injections, into a vein, muscle, or skin,
- Disinfect all dental, tattooing, and surgical equipment between horses. Make sure to remove all debris and blood with soap and water before disinfection,
- Only administer commercially licensed blood or blood products,
- Use a sterile needle each time when puncturing a multi-dose medication bottle. Consult a veterinarian to demonstrate how to use sterile techniques when drawing up medications,
- Monitor for the presence of ticks on your horses. If ticks are found, consult a veterinarian

as to the best tick-prevention approaches in your area; and

- Contact a veterinarian if a horse is showing signs of fever, jaundice, decreased appetite, or weight loss.

Disinfection

This virus is readily destroyed by most common disinfectants such as bleach or alcohol. Since alcohol and bleach-based disinfectants are inactivated by organic matter, such as manure or soil, surfaces must first be cleaned thoroughly with soap and water before disinfectants are applied. Be sure to follow the manufacturers' recommendations and the label instructions for all disinfectants.

Reportable Disease Alert

Equine Piroplasmosis is a reportable disease (pursuant to §9101 of the California FAC, Title 3 California CR §797 and Title 9 CFR §161.4(f)) and must be reported within two days of discovery. If your horse is exhibiting clinical signs consistent with EP or has been exposed please contact your private practitioner or CDFA officials.

[Reportable Disease List](#)

Animal Health and Food Safety Services Animal Health Branch

Headquarters - (916) 900-5002

Redding District - (530) 225-2140

Modesto District - (209) 491-9350

Tulare District - (559) 685-3500

Ontario District - (909) 947-4462

USDA-APHIS-VS - (916) 854-3950 or (877) 741-3690

For more information, please go to the following:

[Equine Piroplasmosis Information Page](#)

www.cdca.ca.gov/ahfss/Animal_Health/EquinePiroplasmosis.html